

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Effect pigments having an aluminum core or aluminum alloy core and an aluminum oxide-containing or aluminum oxide/hydroxide-containing layer enveloping said aluminum core or aluminum alloy core, obtained by chemical wet-process oxidation of lamellar aluminum pigments or aluminum alloy pigments, the content of metallic aluminum in the aluminum core or aluminum alloy core being not more than 90 % by weight, based on the total weight of the pigment, characterized in that the oxidized aluminum pigments or aluminum alloy pigments exhibit at least one highly refractive metal chalcogenide layer having a refractive index of > 1.95 , said at least one metal chalcogenide layer being a layer of an intrinsically colored metal chalcogenide, and a mixed layer is formed between the highly refractive metal chalcogenide layer and the enveloping aluminum oxide-containing or aluminum oxide/hydroxide-containing layer, wherein the aluminum oxide-containing or aluminum oxide/hydroxide containing enveloping layer has a thickness of from 50 - 300 nm, and wherein the effect pigments have a weak color flop having a $\Delta H^*_{\text{anchor}}$ in a range of between 1.5 and 50, and wherein the refractive index of the mixed layer between the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer and the highly refractive metal chalcogenide layer exhibits a gradient perpendicularly to the pigment surface extending from the refractive index of the pure aluminum oxide/hydroxide-containing layer and the refractive index of the highly refractive metal chalcogenide layer.
2. (Original) The effect pigments according to claim 1, characterized in that the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer and the highly refractive metal chalcogenide layer having a refractive index of > 1.95 penetrate each other at least partially.

3. (Previously Presented) The effect pigment according to claim 1, characterized in that the thickness of the mixed layer between the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer and the highly refractive metal chalcogenide layer having a refractive index of > 1.95 is at least 10 nm.
4. (Canceled)
5. (Original) The effect pigments according to claim 1, characterized in that between the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer and the highly refractive metal chalcogenide layer there is disposed at least one oxide layer of a material having a refractive index of < 1.8 .
6. (Previously Presented) The effect pigments according to claim 5, characterized in that the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer and the oxide layer of a material having a refractive index of < 1.8 penetrate each other at least partially.
7. (Previously Presented) The effect pigments according to claim 5, characterized in that the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer and the oxide layer of a material having a refractive index of < 1.8 together form a mixed layer having a thickness of preferably at least 10 nm.
8. (Previously Presented) The effect pigments according to claim 5, characterized in that the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer, the oxide layer of a material having a refractive index of < 1.8 and the highly refractive metal chalcogenide layer having a refractive index of > 1.95 together form a common mixed layer preferably having a thickness of at least 10 nm.
9. (Previously Presented) The effect pigments according to claim 5, characterized in that the refractive index of the mixed layer between the pure aluminum oxide-containing or aluminum oxide/hydroxide-containing layer, the oxide layer of a material having a refractive

index of <1.8 and the highly refractive metal chalcogenide layer shows a gradient perpendicularly to the pigment surface, which gradient extends from the refractive index of the aluminum oxide/hydroxide-containing layer to that of the pure highly refractive metal chalcogenide layer.

10. (Previously Presented) The effect pigments according to claim 5, characterized in that the oxide layer of a material having a refractive index of <1.8 is a silicon dioxide-containing layer.

11. (Previously Presented) The effect pigments according to claim 1, characterized in that the aluminum core exhibits an average layer thickness of less than 250 nm.

12. (Previously Presented) The effect pigments according to claim 1, characterized in that the aluminum core exhibits an average layer thickness of less than 150 nm.

13. (Canceled)

14. (Canceled)

15. (Previously Presented) The effect pigments according to claim 1, characterized in that the at least one metal chalcogenide layer or a plurality of metal chalcogenide layers having a refractive index of >1.95 comprises colored metal chalcogenide layers and metal chalcogenide layers with substantially no intrinsic coloration and are arranged in a predominantly alternating configuration.

16. (Canceled)

17. (Previously Presented) The effect pigments according to claim 1, characterized in that the iron oxide is present in the modification hematite, goethite, magnetite or mixtures thereof.

18. (Previously Presented) The effect pigments according to claim 1, characterized in that the sole metal chalcogenide layer or the plurality of metal chalcogenide layers with substantially no intrinsic coloration are selected from the group consisting of titanium oxide, zirconium oxide, zinc oxide, tin oxide, cerium oxide and hydrated oxides thereof and also mixtures thereof.
19. (Previously Presented) The effect pigments according to claim 5, characterized in that there is applied to the aluminum oxide-containing or aluminum oxide/hydroxide-containing layer a silicon dioxide layer followed by an iron oxide layer.
20. (Previously Presented) The effect pigments according to claim 1, characterized in that there is applied to the at least one metal chalcogenide layer having a refractive index of > 1.95 at least one oxide layer having a refractive index of < 1.8 .
21. (Original) The effect pigments according to claim 20, characterized in that the at least one oxide layer having a refractive index of < 1.8 is selected from the group consisting of silicon dioxide, aluminum oxide and/or aluminum hydroxide, boron oxide, and mixtures thereof.
22. (Previously Presented) The effect pigments according to claim 1, characterized in that they possess a form factor of more than 20 and preferably more than 25.
23. (Previously Presented) The effect pigments according to claim 1, characterized in that they possess a form factor of more than 40.
24. (Previously Presented) The effect pigments according to claim 1, characterized in that the aluminum pigments or aluminum alloy pigments are surface-modified with organic groups or organic compounds.

25. (Previously Presented) The effect pigments according to claim 1, characterized in that the aluminum pigments or aluminum alloy pigments have a colored appearance showing a soft color flop.

26. (Previously Presented) The effect pigments according to claim 1, characterized in that the metal chalcogenides are metal oxides, metal sulphides, metal selenides, metal tellurides, or mixtures thereof.

27. (Previously Presented) The effect pigments according to claim 1, characterized in that the aluminum alloy contains at least 5 % by weight, based on the metal content of the pigment, of one or more of aluminum and various metals, preferably iron, manganese, copper, vanadium, chromium, nickel, cobalt, silicon, magnesium, zinc, and/or titanium.

28. (Previously Presented) A process for the production of effect pigments according to claim 1, characterized by

(a) oxidizing aluminum pigments or aluminum alloy pigments which are suspended in a liquid phase containing organic solvent, using an oxidizing agent,

(b) applying at least one metal chalcogenide layer having a refractive index of > 1.95 onto the pigments oxidized in step (a), during which process a mixed layer forms between the metal chalcogenide layer and the aluminum oxide/hydroxide layer.

29. (Previously Presented) The process according to claim 28, characterized in that an oxide layer having a refractive index of < 1.8 is applied prior to the application of the at least one highly refractive metal chalcogenide layer having a refractive index of > 1.95 in step (b).

30. (Previously Presented) The process according to claim 28, characterized in that the oxidizing agent in step (a) is water and the organic solvent is water-miscible.

31. (Previously Presented) The process according to claim 30, characterized in that the amount of water based on the aluminum pigments or aluminum alloy pigments is from 10 to 120 % by weight.

32. (Previously Presented) The process according to claim 28, characterized in that a catalyst is added in step (a).
33. (Previously Presented) The process according to claim 28, characterized in that in step (b) the application of the metal chalcogenide layer is carried out by the addition of metal salt dissolved in substantially organic solvent to a dispersion of aluminum pigments or aluminum alloy pigments oxidized in step (a).
34. (Previously Presented) The process according to claim 28, characterized in that the organic solvent is selected from the group consisting of alcohols, glycols and ketones and preferably ethanol, n-propanol, isopropanol, n-butanol, isobutanol, tert-butanol, methoxypropanol, acetone, butyl glycol, and mixtures thereof.
35. (Previously Presented) The process according to claim 28, characterized in that the oxidation in step (a) is carried out at a temperature between room temperature and the boiling point of the mixture of water and organic solvent.
36. (Previously Presented) The process according to claim 28, characterized in that in step (a) the suspension exhibits a pH between pH 7 and pH 12.
37. (Canceled)
38. (Canceled)
39. (Previously Presented) A coating composition, characterized in that it contains effect pigments according to claim 1.
40. (Original) The coating composition according to claim 39, characterized in that it is selected from the group consisting of coatings, varnishes, motor vehicle enamels, printing inks, writing inks, plastics materials, glass, ceramics, or cosmetic preparations.

41. (Previously Presented) The coating composition according to claim 39, characterized in that the cosmetic preparation is a nail varnish.

42. (Previously Presented) A method for preparing a composition of matter selected from the group consisting of a coating, a varnish, a motor-vehicle enamel, a powder-based varnish, a printing ink, a writing ink, a plastic, a glass, a ceramic and a cosmetic preparation, which method comprises incorporating within said composition of matter an amount of at least one effect pigment according to claim 1.

43. (Previously Presented) The method according to claim 42, wherein the composition of matter is a cosmetic preparation and wherein the cosmetic preparation is selected from the group consisting of nail varnish, lipstick, make-up, hair treatment preparations, skin care preparations, mascara, eye-shadow, eyeliner, rouge, perfume, eau de toilette, powders in bulk or compressed form and tattooing formulations.

44. (Previously Presented) The process according to claim 31, characterized in that the amount of water based on the aluminum pigments or the aluminum alloy pigments is from 15 to 55% by weight.